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## PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION  
(PCT Rule 61.2)

Date of mailing (day/month/year) 16 November 2000 (16.11.00)	To:  Commissioner US Department of Commerce United States Patent and Trademark Office, PCT 2011 South Clark Place Room CP2/5C24 Arlington, VA 22202 ETATS-UNIS D'AMERIQUE in its capacity as elected Office
International application No. PCT/NL00/00199	Applicant's or agent's file reference P48660PC00
International filing date (day/month/year) 24 March 2000 (24.03.00)	Priority date (day/month/year) 24 March 1999 (24.03.99)
Applicant VAN DER KLIS, Jan, Dirk et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

24 October 2000 (24.10.00)

in a notice effecting later election filed with the International Bureau on:

2. The election  was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	Authorized officer  S. Mafla  Telephone No.: (41-22) 338.83.38
---	--

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification</b> <sup>7</sup> : <b>A23K 1/16, 1/14</b>		<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 00/56168</b> <b>(43) International Publication Date:</b> 28 September 2000 (28.09.00)
<b>(21) International Application Number:</b> PCT/NL00/00199		<b>(81) Designated States:</b> AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GII, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
<b>(22) International Filing Date:</b> 24 March 2000 (24.03.00)		<b>(30) Priority Data:</b> 99200916.7 24 March 1999 (24.03.99) EP	
<b>(71) Applicant (for all designated States except US):</b> STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK [NL/NL]; Bornsesteeg 53, NL-6708 PD Wageningen (NL).		<b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> VAN DER KLIS, Jan, Dirk [NL/NL]; Klaproosdreef 13, NL-8255 JP Swifterband (NL). SCHEELE, Cornelis, Willem [NL/NL]; Wisselseweg 38, NL-8162 RN Epe (NL).	
<b>(74) Agent:</b> OTTEVANGERS, S., U.; Vereenigde Octroobureaux, Nieuwe Parklaan 97, NL-2587 BN The Hague (NL).		<b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	

**(54) Title:** INCREASING PLASMA CALCITRIOL LEVELS

**(57) Abstract**

The invention relates to animal food and supplements used therein. The invention provides a method for preparing an animal food suitable for increasing immune competence and/or phytate degradation competence of said animal comprising supplementing or enriching said food with a substance capable of increasing plasma calcitriol levels. Use of such a method as provided by the invention is particularly useful for reducing or abolishing dietary antibiotic intake by a food animal. For example, broilers or fattening pigs, but also reproductive or egg laying animals, can be reared and kept under circumstances of high intrinsic immune competence, without having to resort to the excessive or forbidden dietary use of antibiotics or other "growth additives" that seems to be common place in traditional animal husbandry.

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
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CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

## PATENT COOPERAT TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>P48660PC00</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/NL 00/00199</b>	International filing date (day/month/year) <b>24/03/2000</b>	(Earliest) Priority Date (day/month/year) <b>24/03/1999</b>
Applicant <b>STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2.  **Certain claims were found unsearchable** (See Box I).

3.  **Unity of Invention is lacking** (see Box II).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

**INCREASING PLASMA CALCITRIOL LEVELS**

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

None of the figures.

**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/NL 00/00199**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: 1-7, 21 because they relate to subject matter not required to be searched by this Authority, namely:  
Claim 21: Rule 39.1(ii) PCT - Animal variety  
Claims 1-7: Rule 39.1(iv)  
PCT - Method for treatment of the human or animal body by therapy
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00199

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 A23K1/16 A23K1/14

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 A23K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category <sup>°</sup>	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 834 262 A (NICHIMO COMPANY LIMITED) 8 April 1998 (1998-04-08) page 7, line 5 - line 56 page 13, line 14 - line 17 tables 5-8 ---	9-12, 14-18
X	US 2 751 303 A (BURROUGHS) 19 June 1956 (1956-06-19) example VI ---	9-12, 14-18
X	WO 98 10665 A (ABBOTT LAB) 19 March 1998 (1998-03-19) page 3, line 18 - line 24; claims 1-4,21-23 ---	14,15
A		13,19
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

<sup>°</sup> Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

8 June 2000

Date of mailing of the international search report

30.08.2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Lepretre, F

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00199

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p> DATABASE WPI  Week 9826  Derwent Publications Ltd., London, GB;  AN 98-292041  XP002113254 ✓  &amp; JP 10 101561 A (SHIKOKU NOGYO SHIKENJO),  21 April 1998 (1998-04-21)  abstract</p> <p>---</p>	9-11, 14-17
X	<p> DATABASE WPI  Week 9644  Derwent Publications Ltd., London, GB;  AN 96-436854  XP002113255 ✓  &amp; JP 08 214787 A (NICHIMO KK)  abstract</p> <p>-----</p>	9-19

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/NL 00/00199

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP 834262 A	08-04-1998	US 6045819 A		04-04-2000
		WO 9737549 A		16-10-1997
US 2751303 A	19-06-1956	NONE		
WO 9810665 ✓ A	19-03-1998	US 5804234 A		08-09-1998
		US 6020471 A		01-02-2000
		AU 4341397 A		02-04-1998
		CA 2258550 A		19-03-1998
		CZ 9804266 A		12-05-1999
		EP 0929231 A		21-07-1999
		US 5985338 A		16-11-1999
JP 10101561 A	21-04-1998	JP 2829388 B		25-11-1998
JP 8214787 A	27-08-1996	NONE		

PATENT COOPERATION TREATY

WE

PCT

NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES

10 OCT. 2000 (PCT Rule 47.1(c), first sentence)

Date of mailing (day/month/year)  
28 September 2000 (28.09.00)

Applicant's or agent's file reference  
P48660PC00

From the INTERNATIONAL BUREAU

To:

OTTEVANGERS, S., U.  
Vereenigde Ocrooibureaux  
Nieuwe Parklaan 97  
NL-2587 BN The Hague  
PAYS-BAS

Piel ex 24-10-2000  
Sum  
NRF 24-11-2000

IMPORTANT NOTICE

International application No. PCT/NL00/00199	International filing date (day/month/year) 24 March 2000 (24.03.00)	Priority date (day/month/year) 24 March 1999 (24.03.99)
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Applicant

STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK et al

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

AG,AU,DZ,KP,KR,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE,AL,AM,AP,AT,AZ,BA,BB,BG,BR,BY,CA,CH,CN,CR,CU,CZ,DE,DK,DM,EA,EE,EP,ES,FI,GB,GD,  
GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MA,MD,MG,MK,MN,MW,MX,

NO,NZ,OA,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,TZ,UA,UG,UZ,VN,YU,ZA,ZW  
The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 28 September 2000 (28.09.00) under No. WO 00/56168

**REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)**

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a **demand for international preliminary examination** must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))**

If the applicant wishes to proceed with the international application in the **national phase**, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

J. Zahra

Telephone No. (41-22) 338.83.38

Continuation of Form PCT/IB/308

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF  
THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

Date of mailing (day/month/year) 28 September 2000 (28.09.00)	<b>IMPORTANT NOTICE</b>
Applicant's or agent's file reference P48660PC00	International application No. PCT/NL00/00199

The applicant is hereby notified that, at the time of establishment of this Notice, the time limit under Rule 46.1 for making amendments under Article 19 has not yet expired and the International Bureau had received neither such amendments nor a declaration that the applicant does not wish to make amendments.

REPLACED BY  
ART 34 AMEND

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT PCT



(PCT Article 36 and Rule 70)

Applicant's or agent's file reference  P48660PC00	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No.  PCT/NL00/00199	International filing date (day/month/year)  24/03/2000	Priority date (day/month/year)  24/03/1999
International Patent Classification (IPC) or national classification and IPC  A23K1/16		
Applicant  STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand  24/10/2000	Date of completion of this report  12.06.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Giménez Miralles, J  Telephone No. +49 89 2399 8655



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00199

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

1-10 as originally filed

### Claims, No.:

1-18 as received on 21/05/2001 with letter of 18/05/2001

### Drawings, sheets:

1/2,2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/NL00/00199

the drawings,      sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):  
*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

the entire international application.

claims Nos. 1-7 as to N, IS, IA; 17-18 as to IA.

because:

the said international application, or the said claims Nos. 1-7 and 17-18 relate to the following subject matter which does not require an international preliminary examination (*specify*):  
**see separate sheet**

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

no international search report has been established for the said claims Nos. 1-7.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

the written form has not been furnished or does not comply with the standard.

the computer readable form has not been furnished or does not comply with the standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)      Yes:      Claims 8-18

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/NL00/00199

No: Claims  
Inventive step (IS) Yes: Claims 8-18  
No: Claims  
Industrial applicability (IA) Yes: Claims 8-16  
No: Claims

2. Citations and explanations  
**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:  
**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL00/00199

**Re Item III**

- 1) According to Article 17(2)(a)(i) PCT, no International Search Report was established in respect of claims 1-7 and 20 as originally filed, because the International Searching Authority considered that they relate to subject-matter covered by the provisions of Rule 39.1(iv) PCT (a method of treatment of the animal body by therapy); and Rule 39.1(ii) PCT (an animal variety), respectively. Consequently, no International Preliminary Examination will be carried out in respect of amended claims 1-7 (original claim 20 has been cancelled), for which no International Search Report is available (Article 34(4)(a)(i) PCT).
  
- 2) Amended claims 17 and 18 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(i) PCT). (See Item V.3 below).

**Re Item V**

- 1) Reference is made to the following documents:

D1: DATABASE WPI AN 96-436854 & JP-A-08 214 787 (NICHIMO K.K.)

D2: DATABASE WPI AN 98-292041 & JP-A-10 101 561 (SHIKOKU NOGYO SHIKENJO)

D3: US-A-2 751 303 (BURROUGHS W. ET AL.)

D4: EP-A-0 834 262 (NICHIMO CO. LTD.)

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL00/00199

D5: WO-A-98 10665 (ABBOTT LABORATORIES)

2) None of the prior art citations mentioned in the International Search Report discloses the fact that pig and poultry food supplementation with non steroid phytoestrogens, such as isoflavones (e.g. genistein, daidzein), increases the content of calcitriol in blood plasma of said animals, nor the fact that said increase of the plasma calcitriol level through food supplementation with non steroid phytoestrogens results in an increase of: i) the immune competence; and/or ii) the phytate degradation capacity of said pigs and poultry.

Although the prior art anticipates animal feed compositions for cattle and aquaculture comprising said phytoestrogens, as well as methods for the preparation of said feed supplements or compositions from leguminous seeds (e.g. soybeans), and it is recognized that said fodder compositions containing soybean phytoestrogens have positive immunological effects and stimulate growth (see D1: abstract; D2: abstract; D3: col.2, I.2-14, I.51-52, and example VI; D4: p.7, I.5-56, and p.13, I.14-17; D5: p.3, I.18-20, and claims 21 and 22), none of these documents teaches or suggests inducing calcitriol synthesis in pigs and poultry by administration of food supplemented with said phytoestrogens.

Therefore, the subject-matter of present claims 8-18 is to be considered as novel (Article 33(2) PCT), and as involving an inventive step (Article 33(3) PCT).

3) For the assessment of present claims 17 and 18 on the question whether they are industrially applicable (Article 33(4) PCT), no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims directed to methods for the treatment of the human/animal body by therapy; or to the use of a compound/composition in a therapeutic/medical treatment of the human/animal body; but may allow, however, claims to a known compound/composition for first use in said therapeutic/medical treatment; and the use of such a compound/composition for the manufacture of a product/medicament for a new therapeutic/medical treatment.

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**Re Item VII**

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 to D5 is not mentioned in the description, nor are these documents identified therein.

**Re Item VIII**

- 1) Claims 8, 12, 13 and 16 attempt to define the subject-matter for which protection is sought in terms of the result to be achieved ("capable of inducing calcitriol synthesis"), which only amounts to an undue reiteration of the underlying technical problem, and results in lack of clarity and conciseness of the claims (Article 6 PCT). Any independent claim should define the subject-matter for which protection is sought as clearly and precisely as possible, in terms of the technical features essential for achieving the aforementioned result (see Guidelines PCT, III-4.7). The "substance capable of inducing calcitriol synthesis" should be therefore defined in the relevant independent claims.
  
- 2) Although claims 13, 15 and 16, and 8 and 17, respectively, have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness. Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection. Hence, the aforementioned claims do not meet the requirements of Article 6 PCT. In order to overcome this objection, it would appear appropriate to file an amended set of claims defining the relevant

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subject-matter in terms of a single independent claim in each category containing all the essential features of the invention (see item VIII.1 above), followed by dependent claims covering features which are merely optional (Rule 6.4 PCT).

3) The application does not meet the requirements of Article 6 PCT, because there is an inconsistency between the claims and the description/figures concerning an essential technical feature of the invention, thereby throwing doubt as to the subject-matter for which protection is desired (see Guidelines PCT, III-4.3).

It is clear from the claims that the application is directed to a pig and poultry feed supplement or composition containing phytoestrogens from leguminous seeds, which induce the synthesis of calcitriol by the animal, thereby increasing the immune competence and/or phytate degradation capacity. However, the effects shown in figure 1 and figure 2 are not obtained by feeding the animal said precursor (phytoestrogen) containing food composition, but by using calcitriol itself as an adjuvant in the diet (see the description on p.3, I.12-13). The direct supplementation of dietary calcitriol in the animal feed in order to raise the plasma calcitriol level is not covered by the present claims.

Furthermore, said direct supplementation of dietary calcitriol in the animal feed in order to raise the plasma calcitriol level, which results in an improvement of the phytate degradation capacity of said animal, is well known in the art, as recognized in the application (see the description on p.6, I.1-5; and the document cited therein), and therefore it is not novel (Article 33(2) PCT).

This fact results in an inconsistency between the claims and the description rendering the claims as a whole unclear.

**PATENT COOPERATION TREATY**

From the  
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14 JUN 2001

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PCT  
NRF, 24-9-2001

**NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

(PCT Rule 71.1)

Date of mailing  
(day/month/year) 12.06.2001

**IMPORTANT NOTIFICATION**

International application No. PCT/NL00/00199	International filing date (day/month/year) 24/03/2000	Priority date (day/month/year) 24/03/1999
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Applicant  
STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

**4. REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

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